

Newsletter

*For Friends of the Christchurch Botanic Gardens Inc
To Promote, Protect, & Preserve*

No 63, Midyear, July 2005

President's Report

Over the years we have placed the Botanic Gardens and Hagley Park under different headings. Our perception has been one set of activities for the Gardens and another set for Hagley. Even previous management plans have shown the difference in thinking. Now we are faced with task of examining them as an integrated project because of council planning requirements.

This scenario becomes a mindset as we have to put aside historical perceptions and examine the situation from an unbiased point of view.

Overall we are comfortable with the way Gardens and Hagley complement each other. Take one away and what do we have? What would Christchurch be like without Hagley Park? Its great open space provides an iconic green area in the centre of the city. As the city continues grow both outwards and upwards, these green areas become the breathing pores and possibly the only green space a number of city dwellers come in contact with. Over the years Hagley Park has been under pressure to cater for a wide range of activities. Summer and winter sport, golf, garden shows, musical concerts, promotional exhibits etc. Allowing these activities to take place comes at a cost- namely turf restoration. Historically these activities have taken place but are they the correct use of this area? Should golf take precedence over rugby? This scenario is nothing new, as the Great Exhibition was the forerunner of non-sporting activities.

For many years parking has been a problem but now it has reached crisis point. Is the park to be compromised by sacrificing green space to provide on site car parks? Do we build underground or invest in car park buildings on the edge of the park? It is interesting to note that people can chase a ball for 80 minutes but object to walking any distance to the playing field. Continued parking underneath trees unless properly planned will shorten their life. When sport started to be played at Hagley most people walked or biked, as it was easy to reach. Today we are a mobile society and these constraints are not so relevant.

Over the years Hagley has undergone a number of changes in the way it has been maintained. I can remember when the grass was left to grow and then baled on South Hagley and under the trees on Harper Avenue. A scythe was used for cutting around the trees and river banks while today machinery and chemicals are used.

We admire Hagley with its open green spaces and mature stands of trees but remember that in 20-30 years many of these trees will have reached the end of their life.

Changing Hagley Park to become an iconic feature in the centre of the city would certainly complement the Botanic Gardens. For this to occur a paradigm change in thinking and goodwill will be required. Are we the Friends of the Botanic Gardens ready for this change? Planning for the next century needs to start now

David Moyle

See Coming Events insert for meeting Wed 16 November.

I
N
S
I
D
E

2 Gardens' News
3 Recent Events
6 Articles

12 Friends' Groups
13 Snippets
14 Coming Events

FCBG
PO Box 2553
Christchurch

Gardens' News

Curator's Comments

Being away from work for much of the last two months due to ill health, has provided some time to catch up on background reading. This has included delving into the history of the Royal Botanic Gardens at Kew and discovering that there are some interesting linkages between their history and events in the 1850s that led to the legacy we have today in the Botanic Gardens and Hagley Park. It emphasises that institutions today are moulded by past events and the interactions between personalities - the key players and events that lead to where we are today.

We have this very much in mind as we move towards an integrated Master Plan for both the Gardens and the Park. This will be something quite new and separate from, but providing a lead for subsequent management plans. The Master Plan will be developed through the rest of 2005 and there will be opportunity for input from the public and from key players such as the Friends. Rather than being prescriptive the Master Plan is intended to be visionary and strategic - a firm indication of direction and vision.

In the weekend I was reminded of how much some people are attached to and love the Botanic Gardens when talking with three 'locals' who live in the immediate neighbourhood. "We are there every day", was the comment. We went on to discuss what they particularly appreciate and value and what could and should change. It made me realise once again that out in the community we have a large army of guardians who are both supporters and critics and to whom the Botanic Gardens are an important part of their lives. This is of course a fundamental role for the Friends to garner, treasure and exercise.

Greenspace Unit Manager

Michael Aitken is the new Greenspace Unit Manager and he will be joining the City Environment Group on Monday 1 August. He has had an extensive career in the health sector and brings a wealth of experience in senior leadership and management roles.

BG Update

There has been some redevelopment work undertaken in the **Herb Garden** with new paths and beds. Planting has begun and will continue into spring. Louise Young is now caring for this collection.

Another area currently being worked on is the **Central Rose Garden**; previously one quarter of the Yew hedge received a severe prune along with the shrubs in the centre. They have made good progress filling in, and eventually the whole rose garden will receive pruning to gain control of a hedge that in places had reached over 2 metres in width. Sections of the box hedge have been removed ready for replanting after box edges are installed.

The **trees** within the Gardens are receiving on going maintenance with the cabled trees being paid particular attention, as we move from the wire cabling to flexible cables which are less invasive on the tree structure. Each winter a Tree spade is used for tree work in the City and recently 19 trees within Hagley Park and the Botanic Gardens have been transplanted.

Tilia orbicularia, the large tree beside the children's playground had to be removed due to health and safety reasons, because of extreme decay in the tree where a previous limb had fallen off. The large stump has been left to collect propagating material if we are unable to propagate or source another specimen.

Over the last few months fibre optic cabling has been installed which in future will allow for better communication internally and externally, as we move to improve the **Gardens' infrastructure**. We are also waiting patiently for our water supply to be altered as consent has now been received to place new well within the Gardens allow for improvements to our irrigation systems.

Mobility Scooters. Two scooters provided by the TSB Bank are available free, for use in the Gardens from the Botanic Gardens' Information Centre. To book phone 941 7590.

BG Information Centre

With all the building changes complete in the new look Gardens' Information Centre, its resident team is looking forward to the next spring/summer season. Recent changes include longer opening hours Monday to Friday, now 9am till 4pm, Saturday and Sunday 10.15am - 4pm year round, the installation of a user friendly microscope and the addition of the TSB sponsored mobility scooters - for better garden access! (These scooters are free. To book, phone 9417590).

On a wider Garden wide note, new notice board maps and supporting handouts are now in use and proving popular. On all new map publications, there is no seasonal map but a generic map that covers the four seasons. An addition this time is the inclusion of some route times to aid visitors in their experience within the Gardens.

Also popular was the recent rose pruning demonstration with Bede Nottingham, when over 50 turned out to pick up his helpful hints and pointers.

During the recent weeks there has been a large number of schools visiting as the education programme gains momentum. Working in

partnership with the Art Gallery students will be visiting both sites as part of a biodiversity and art educational experience.

And at the time of writing this, the - 'Save KidsFest Garden Quest Our Seeds' and supporting display is proving to be very popular and a great way to introduce children to the Gardens beyond the playground - thank you to all the Friends involved in proving the need and paving the way!
Jeremy Hawker and Jo Rooke

BGANZ

Botanic Gardens of Australia and New Zealand

The New Zealand heads met in Dunedin recently to discuss issues and share information, leading up to the acceptance of a common constitution by both countries. There was discussion around how the New Zealand Botanic Gardens will interact and participate with the Australian network.

Discussion also centred on commonalities the New Zealand Gardens have including asset management, information technology, staff structures, and processes and planning.

These will become 6 monthly meetings hosted on a rotating basis.

Recent Events

Riccarton Bush 5 March

A group of Friends enjoyed a picnic in the grounds of Riccarton House then a guided walk with John Moore the Ranger. This site was formerly the home of the Deans family from 1843 and today the reserve of 30 acres is administered by the Riccarton Bush Trust and is open every day. This reserve holds a notable collection of specimen trees from around the world and 15 acres of native bush where a forest has been growing for 3,000 years, (not the present generation of trees). For more information see "*Riccarton House: Putaringamotu*" Natural History and Management. Ed. Dr Brian Molloy, Published by Riccarton Bush Trust, Christchurch 1995.

Styx River trip 2 April

Our thanks are due once again to Alison Fox for arranging the bus trip along the Styx River with John Knox the driver and most knowledgeable guide. Thirty two members and friends had a very enjoyable day.

Bioblitz 8-9 April

Thank you to the Friends who helped during Bioblitz in April, the 24 hour study of 'life' in the Botanic Gardens and Hagley Park. This help included field work towards the 'Scientific Searches', supplying food to the public, encouragement to the teams, and selling plants to the visitors. Dr David Given, Curator, walked with the Friends soon after the Bioblitz to explain findings and more details will be available eventually.

4 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

Chelsea and the Garden of Eden 27 April

Volunteering to work at the Chelsea Flower Show obviously has many advantages, not the least being the chance to see the exhibits before the crowds pour in each day.

Bob Crowder entertained us with stories and slides of this show and then on to the Eden project in Cornwall with its mind-boggling dimensions. Viewers who had visited previously were amazed at the progress made in the intervening years.
Carolyn Collins

Spring Flowers in the Annapurna Ranges and the Royal Botanic Gardens in Godwari, Kathmandu, Nepal 22 May

Many of us dream of visiting the home of rhododendrons, but not many of us have the energy to get there.

Ryan Young gave us a guided walk through the foothills of the Himalayas, without the altitude sickness and from the comfort of the Horticultural Hall. The "staggering" beauty of the landscape and the hardships of the way of life permeated his slides.
Carolyn Collins

Breakfast with the Birds on 28 May.

Saturday morning and I am sitting drowsily on a railing outside the Botanic Gardens' Information Centre wondering vaguely whether the worms will be up yet, when my wife nudges me. There's a gaggle of humans coming towards the building chattering and fluffing up their feathers, remarkably spry for humans this early in the day.

We hopped down and waddled over to investigate. Most entertaining morning I have had for a long time. The humans had flocked to feed together then listen to Andrew Crossland, a City Council Park Ranger who held them spellbound, as he showed slides of local birds and told them how marvellous we (and the Christchurch avian environment) are. A brilliant exposition. This man is a great credit to his species.

The humans thought so too and came out chattering excitedly. They had enjoyed a delightful breakfast (thanks to Robyn Gordon) and an exceptionally good talk. A very fine effort by all concerned, apart from one small oversight. The event was labelled as "Breakfast with the Birds" – but someone forgot to give us our share.
Donald Drake.

Kew Gardens' Video 26 June

Adrienne Moore gave a brief comment on the work of Kew Gardens before showing the video "A Journey Through Kew Gardens."

Passionate Pirates Plant Hunting in China

Friends' member and Guide, Diana Madgin, shared not only the experiences and contributions of the intrepid Plant Hunters who worked in China, but her research into their amazing stories and her own passion for China.

This topic will be covered more fully in future newsletters as part of our stories on the Origins of our Garden Plants.

Several members of the audience contributed new information from their own plant work and travels. Bill Sykes was acclaimed for his recent award **ONZM** in the Queen's Birthday Honours List.

Recent Walks

Friends and the public have been treated to a variety of informative guided walks by Staff members and Friends' Guides. The rewarding feedback after these walks is very encouraging. Topics covered include: Biodiversity, Garden Habitats, Seasonal Highlights, Bioblitz Findings, Plants from Japan, Bark, Asian Plants, and Rose Pruning.

Barking up the Right Trees

A group of about 18 gathered for the walk on Sat 18th June led by Faye Fleming and Pat Whitman. Our plan was to look at many of the attractive bark patterns and to learn about the functions and uses of bark for the trees and for humans.

Faye began by describing some of these functions. The tree has an inner core which supports it, and round this is the cambium layer which is the delicate generative or growing layer of the tree, only a few cells thick. It produces the xylem and phloem of the tree. Xylem carries water and minerals from the roots to the leaves and phloem the manufactured nutrients, sugars, from the leaves to the roots. The bark acts as a protection for these structures, saving them from bumps, cuts, temperature extremes and damaging intense sunlight. Bark is porous and can help the tree to breathe, but at the same time it prevents excessive water loss. Like a scab covering a wound it protects the tree against the invasion of harmful organisms.

The outermost part of the bark is all hardened dead tissue and helps the tree eliminate waste by absorbing and trapping harmful substances in the dead cells and resins. When the bark is shed the wastes are discarded with it. This shedding can also rid the tree of lichens and insect pests living on the surface. Smooth barks in tropical areas make it hard for epiphytes to cling, and shedding the bark disposes of those plants which do get a grip.

The patterns of the bark are a result of the growth of the tree. As the cambium layer produces new cells and pushes them outwards the tree increases in size. The outer bark is dead and cannot stretch so something has to give. The stress experienced and the different cell structures determine where and how the bark cracks or peels to allow for the increase in girth.

There are many adjectives to describe the texture of bark. Rough or smooth, scaly or plated, fibrous or papery, cracked or furrowed, fissured or flaky, warty or shaggy. I'm sure you can think of more. We tried to find the correct one for each tree we looked at.

Our route went across to the Te Puna Ora area, passing the ropey and crimped bark of the incense cedar and the knobbly tulip tree, where we admired the papery bronze *Prunus serrula* and the bright white *Betula utilis*. In the New Zealand section we compared the stringy bark of the totara with the similar but larger bark of the native cedars. We also looked at the flaky bark which leaves red patches on the matai trunk and compared the barks of the different native beeches.

Emerging near the rockery we admired the two huge gums spiralling in opposite directions, and along the path behind the rock garden inspected a very distorted weeping elm on the left and a dear little persimmon tree on the right with delicate crazy paving bark patterns. Approaching the Japanese cherries we stopped at a smooth grey beech trunk, ideal for graffiti, and then looked at the bracket fungus on the bottom prunus tree and the prominent lenticels, which help it to breathe. Time was running out so we abandoned the Archery Lawn and returned through the maples stopping at the snakebark maple and then along by the Australian bed feeling the textures of some of the barks.

As we went along Faye (and Max) told us of some of the uses and medicinal properties of bark. The bark of the paper mulberry (near the ponds) is used to make tapa cloth; ash bark is good for wounds and fever, elm for cough medicine. The holly bark was used to make sticky birdlime for trapping birds and the fibrous lime bark for making mats, rope and clothing.

This report is only a brief outline of some of the trees we looked at. It was an interesting topic to research and there is plenty of scope for further walks on the bark theme if people are interested.

Pat Whitman

"The Role of the Botanic Gardens in Seed and Plant Conservation"

Presentation by Dr David Given, Curator, Christchurch Botanic Gardens, in the BG Information Centre 12.10pm Tue 26 July.

David defined the role of Curator as meaning to care: which can be defined further as a matter of taking the trouble to do something- that implies watchful conscientious effort to do something right. He ably demonstrated his commitment through his knowledge, experience and activities to bring our Botanic Gardens into line with other notable gardens internationally that are working in the interest of conservation. This includes discovering plants considered rare or almost extinct, as well as new species with the aim of maintaining their culture and preservation. He demonstrated with slides some of the rarer species that are being conserved today throughout the world.

New Zealand is an international 'hotspot' for biodiversity, particularly Canterbury east of the Alps, having quite a select range of plants. David recommended a document published by N.Z. Biological Strategy – "Our chance to turn the tide". The origins of gardens were in the monasteries with their herb borders. During the Renaissance teaching gardens were developed to study plants for medicinal purposes. The Chelsea Physic Garden was one of these and continues its education role today. Castle gardens became the interest of the wealthy who sent out plant hunters to the New World. They returned with new species which were catalogued and grown. Botanical Gardens took on this role, spearheaded in Britain with the establishment of Kew Gardens which developed from the Royal Gardens at Kew. The aim was to have every plant in the world at Kew. Currently they have 40,000 species.

6 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

Worldwide today the aims of Botanic Gardens are towards;

- The establishment of plant collections.
- Education, Conservation and recreation - to encourage people to appreciate plants and gardens as a whole, and therefore understand the value of preserving all species.
- Seed Banks - Botanic Gardens are now developing seed bank facilities where material is frozen and stored. (The frozen garden).
- Art and sculpture to complement plants.

David described how we can all be part of the process of preservation – e.g. rare plants are being cultivated and made available for more people to grow so plants in the wild are not taken indiscriminately.

One ancient species, which only survives through centuries of cultivation, is the Ginkgo, which is no longer found in the wild. This is regarded as a

living fossil. There is now a cycle whereby plant species are rediscovered then nurtured in Botanic Gardens and eventually reintroduced to their natural habitat.

This was a most interesting and positive presentation of the work that is being done worldwide to ensure the continuing existence of plant diversity and well being. This in turn benefits all humanity.

Thank you David.

Robyn Gordon.

New Members

We warmly welcome these new members; Julia Brennan, Tricia Carr, Denise Davison, Ric and Aileen Ginders, Lisa McGregor, Margaret Mc Murty, Cliff Mason, Alan Morgan, Marion Morris, Beverly Obst, Anne Seyer, Rosalind Taylor, Sumiko Yoshioka

Articles

The Redwood and the Ivy

A short distance west of Cuninghame House in the Christchurch Botanic Gardens stands a solitary specimen of a Giant Redwood - *Sequoiadendron giganteum*, a native of California and which in New Zealand is known as a Wellingtonia. Redwoods are known for their great size and this specimen, although still comparatively young, is no exception. It already stands head and shoulder above the canopies of all other trees in its vicinity.

Long pendulous branches screen the mighty trunk from the view of passers by. On approaching the trunk of the redwood more closely, inside its ring of branches, it immediately becomes apparent that the tree is held in a tight grip by the climbing stems of a huge specimen of the English or Common Ivy *Hedera helix*.

This ivy, in terms of size and perhaps age as well, is a worthy companion of the redwood. Among its own kind it is also a giant (by far the largest specimen the author has ever seen). The short twisted trunk is of massive proportions for an ivy.

It has been difficult to get exact measurements of the irregular, flattened shape of the short trunk, but I found its width varying between 33-44cm, and its thickness between 25-30cm. The ivy's trunk starts from a tight squeeze between the roots of the redwood. Branching commences at about 50cm above ground level, and repeated branching soon forms a dense network of leafy shoots that eventually completely envelop the trunk in a green mantle, extending to the top of the tree.

The Common Ivy is a woody evergreen climber native to Europe, Asia and Africa. Typically a plant of hedgerows and deciduous woodlands it creeps along the forest floor until it meets up with a suitable support where it starts climbing. Under favourable conditions it can achieve a height of up to 30 metres. It is tolerant to low light intensities and can live for centuries. The ivy is not a parasite. It merely uses the redwood for support; it does not gain any water or nourishment from its host. Hence ivies do not harm the tree they grow on except in the case of small trees which may be completely overwhelmed by a vigorous one. In such a case the ivy might cut off the tree's source of light and

also makes it more vulnerable to wind throw.

The Common Ivy produces two distinct growth forms; the juvenile or climbing phase, which bears 5 lobed leaves, and attaches itself to its support by means of thousands of aerial roots. These roots, which may be several centimetres long, are tough and wiry and are very difficult to pull off. Aerial roots are also hollow and are covered towards their tips with a sheath of microscopically fine hairline threads or filaments which glue the aerial roots to their support.

As long as the ivy continues to climb and produce aerial roots it is quite sterile. After a few years of vegetative growth and only under conditions favourable for reproduction, which includes adequate amounts of light, flower-bearing shoots arise. This phase no longer climbs, produces no aerial roots and grows towards the light, away from the tree support. The leaves of such flowering shoots are no longer 5 lobed but more oval in shape. The flowers are quite small, yellow-green, and occur grouped together in umbels. They are highly fragrant and are visited by numerous pollinating insects. The fruit is a dull blackish berry containing 2-3 seeds, which then develop into a dull blackish berry. These are much eaten by birds, which aid in the dispersal of the seed.

The ivy has no great medicinal value, but rather is reputed to be poisonous. It once was much respected as a magical plant protecting against evil spirits and also symbolised fidelity. It was dedicated to Bacchus, the Greek god of wine, and writers of old claimed that a decoction of bruised ivy leaves gently boiled in wine removed the effects of alcohol. In Elizabethan times a bush of ivy or a painting of one was a common sign for a tavern and symbolised the good quality of wine served therein.

Max Visch

BIOBLITZ – A Volunteer's Experience

The idea of discovering as many living species as possible in Hagley Park and the Botanic Gardens in 24 hours had about it a certain fascination. As part of the 24 hour Bioblitz I volunteered to help on the Saturday (9th April) and was invited to join the team lead by Dr Alison Stringer and assisted by Dr Ron Close, in the collection of fungi and lichen. It

was something I almost regretted when the day dawned, and it was still teeming with rain as it had done all night for those nocturnal people who had spent the night discovering the night life of Hagley Park and the Gardens. Fortunately, the worst thing about going out in the rain is thinking about it, and during the morning it eased and finally stopped.

By the time I arrived, which was some seventeen hours after the Bioblitz started, nearly all of the gardens and some of the park had already been surveyed with some very interesting results. Large edible mushrooms, giant puffballs, field mushrooms the size of dinner plates and a Porcini mushroom had been found in the College border. It is believed that the large field mushroom may have been an escaped Portobello. Also present in this area were at least three species of ink-cap mushrooms. Coral fungi were found on the wooden edgings of the southern Archery lawn, while a large bracket fungus was found growing on a cherry tree, and a number of basket fungi in the azalea beds. The azaleas themselves contained large populations of various lichens as did the trunks of many the large trees.

My first collecting sweep was through the daffodil woodlands behind the hospital. This was a revisit as a quick sweep had been done through this area before I arrived. This was followed by a detailed sweep through the pinetum, then through the woodlands in South Hagley Park by the Riccarton Avenue/Deans Avenue corner. These areas proved good sources of fungi, even if a little more restricted in the number of species found than I would have expected. All the fungi found were from that group known as *basidiomycetes* whose fruiting bodies were generally shaped like the common mushroom or toadstool. The majority of those collected were gill fungi where the spores are produced on gills or plate like structures on the underside of the fruiting body. The other large group found had similar shaped fruiting bodies but the spores were contained in fine tube like structures on the under side of the fruiting bodies. Numerous puff-balls were also found. One or two species of saprophytic fungi specific to certain species of trees were collected from the woodland area of South Hagley Park. The areas around the bases of the various trees in the pinetum proved very fruitful collecting grounds. As would be expected, most of the fungi found were either in groups or clumps, sometimes two or more species close together.

8 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

The actual identification of the numerous fungi collected was left to the experts – Alison and Ron – and in total they recorded 77 different species of fungi and 30 species of lichen. The grand total of all species – plant and animal – collected during the Bioblitz was given as about 1200.

One of the most interesting sidelights was the keen interest taken by casual visitors to the Park and Gardens. People, particularly with eastern European connections, showed a keen interest in the various fungi that we would class as toadstools and were ready to impart their knowledge on how to prepare them as edible delicacies. Whereas to me, a good common kiwi, the only apparently edible fungi found was a small pink-gilled mushroom in the South Hagley woodland.

My involvement with the “fungi and lichen” team unfortunately didn’t allow time to study what other groups had collected; hence these reflections have been confined only to these two groups – fungi and lichens.

John G. Smart

Spectacular in Spring - *Magnolia campbellii* (Magnoliaceae)

Magnolias are thought to be among the earliest flowering plants when the only pollinators were beetles. Many fossil records have been found showing little difference to today’s magnolias and suggesting a widespread distribution through North America, Asia and Europe. Other members of this family include Liriodendrons and Michelias. *Magnolia campbellii*, the giant Himalayan “Pink Tulip Tree” was named in honour of Dr Archibald Campbell, 1805-1874, Superintendent of Darjeeling and Political Agent to Sikkim who accompanied Sir Joseph Hooker on his celebrated journey to Sikkim in 1849. The genus commemorates Pierre Magnol, 1638-1715 professor of Botany and director of the Botanic Garden in Montpellier France.

It is a native of the Himalayas from Eastern Nepal to Western Yunnan (China) and grows in forests and thickets between 2100-3300m (7,000-11,000 ft). This deciduous magnolia can grow to 35m (115’) in the wild, some say even higher, and was first collected and described, but not named, by Dr W. Griffith in 1838. When collected by Sir Joseph Hooker in 1849 he wrote of “mountainsides

becoming pink when it bloomed.”

Over harvesting for firewood and timber has greatly reduced the species. It was used for tea boxes and planking. Some remaining wild plants are thought to be suckers of harvested trees. It is reputed that solitary trees do not produce fruit and no seeds are produced if trees are cut before maturity (around 25-30 years). In cultivation this vigorous conical then spreading tree, grows to a height of 9-18m (30-60’) and take around 20-25 years to flower.

A large tree can have hundreds of flowers which are goblet shaped at first and open wide, like a water lily. The slightly fragrant blooms open from greyish brown woolly buds on leafless branches and can be up to 25.4cm across (10in.). The colour ranges from white to pink to crimson. The flower buds are protected from frost by hairy wrappings, but once open the flowers can be damaged. The deep green elliptic to obovate leaves can be up to 30cm (12 in.) long and 15cm (6in.) wide. A cultivated tree in Nan-Hua County in Yunnan is said to be 600 years old. (Peter Valder).

A large *Magnolia campbellii* grows in our Botanic Gardens near the Western bridge (near the United tennis courts) and flowers from late winter. This year it is already in flower at the time of writing. (last week of July). The magnificent show of large pink flowers lasts around 3 weeks, depending on weather.

Nearby in the Magnolia and Azalea garden, look down for the wonderful Hellebores and up to the *Magnolia campbellii* var. *mollicomata* Lanarth which will soon be flowering - (*mollis* meaning soft and *comosus* - bearing hairs, referring to those on the flower stalk). This is the pyramidal form with purple flowers first grown at Lanarth in Cornwall from seed collected by George Forrest.

Magnolia campbellii var. *mollicomata*, was first discovered by Forrest in Yunnan China in 1904 and grows in the eastern end of the species range – Burma, Tibet and West Yunnan. It differs from *Magnolia campbellii* by having yellow hairs on the flower stalk, has larger paler flowers, more elongated flower buds, flowers later and reaches flowering age in around half the time of *M. campbellii*.

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A. Moore July 05

An introduction to the Origins of our Garden Plants and the Plant Hunters

Today we take for granted the floral bonanza available in our nurseries and local garden centres, but what thought do we give to how these plants from around the world became available? The earliest indications of horticulture date back only 10,000 years, but bouquets of cornflowers, yarrow and grape hyacinths on a Neanderthal burial site from 60,000 years ago, indicate an early appreciation of flowers. The tradition of gardening is probably the oldest in China where Emperor Chou in 2000BC had a sumptuous show garden.

People have always depended on plants which have been gathered from the earliest times, initially for food and medicinal uses and later for pleasure and economic reasons. As people settled and were no longer fighting for survival, food crops were cultivated near home and enclosed to protect from animals. Pleasure gardens developed with larger settlements and around palaces and homes of the wealthy.

Ever since 1495 BC when Queen Hatshepsut had frankincense trees transported from Punt (now known as Somalia) to Egypt for her Mortuary garden, and perhaps even before this, people have been moving plants around the world.

The Romans and Monks introduced new plants as they travelled but were not active plant hunters. Buddhist Monks carried tea, made from camellia leaves, to keep them awake on long journeys and counted the length of journeys by how many cups of tea were needed along the way. The demand for herbs and spices to mask the taste of food was one of the main motives for international trade. (No refrigeration or modern packaging).

Explorers and traders started collecting attractive

plants for the ornamental garden as well as economic and medicinal plants, then the only source of medicines. (Even today Kew estimates 75% of the world's people depend on plants to treat pain and disease).

Physic Gardens and Botanic Gardens

Apothecaries grew plants for study and use in medicine and their gardens were known as Physic Gardens which were like living text books. From the 16th century new plants and trees flooded into Europe from the east and the newly discovered Americas to these previously ordered and scientific gardens. These new plants were often displayed as curiosities. The first Botanic Gardens developed from the Physic Gardens and the earliest of these Botanic Gardens is thought to be Pisa established in 1543. Others followed such as Leiden Netherlands 1587, Oxford University Botanic Garden 1621, Jardin de Plantes in Paris 1626, Uppsala in Sweden 1665, Edinburgh 1670 and the Chelsea Physic Garden in London in 1673. Chelsea Physic Garden is the only remaining one operating by that old name. (Well worth a visit, but check opening times).

Early British Plant Hunters.

The first recorded organised plant collecting for British gardens was in the early 1600s when John Tradescant the elder, (1570-1638), was sent by his employer to the continent for new plant material. He made several journeys and some of the plants within his returning baskets and locked hampers, were fruit and nut trees, anemones, jonquils and tulips. Tradescant's son also John, (1608-1662), later sailed on several voyages to North America and introduced many new ornamental plants such as *Taxodium distichum*, the swamp cypress and *Liriodendron tulipifera*, the tulip tree. Both Tradescants in turn, became head gardener for Charles the First.

The Royal Gardens at Kew and Joseph Banks, (Later Sir Joseph).

Gardening was a favourite pursuit of Royalty and became very fashionable amongst the gentry to enhance their grand stately homes. There was quite some competition to have the newest and most exotic material. A new group of explorers, the professional plant hunters began working for Botanic Gardens, large estates and nurseries.

10 FRIENDS OF THE CHRISTCHURCH BOTANIC GARDENS

John Bartram (1699-1777), a missionary in North America, was employed by a group of London gardeners including Frederick Prince of Wales, to source new American plants. *Magnolia grandiflora* was one of these. The Prince and his wife Princess Augusta gardened on 9 acres at Kew House near London. After the Prince died in 1751 Princess Augusta developed the garden with help from her friend Lord Bute (John Stuart, 3rd Earl of Bute who was Prime Minister in 1762-1763 and a zealous patron of botany and horticulture). Later, her son George the Third, inherited this garden and joined it to his own.

After the death of the Dowager Princess and departure of Lord Bute, the young Joseph Banks, became the unofficial director of the Royal Gardens at Kew. He had recently returned from his 3 year round the world voyage with Captain James Cook. For 50 years the gardens at Kew flourished but declined when the King and Banks died the same year.

Then in 1841 Sir William Jackson Hooker, previously Professor of Botany at Edinburgh University, was appointed by the government as the first official director of Kew Gardens. Hooker built on the awareness developed by Banks, of man's dependence upon plants. As the British Empire expanded Kew developed as a leading botanic garden and scientific institution of international stature. Today the rich archives, herbarium, library and museum at Kew support the main task since Banks' time, of discovery, classification, naming and publication of data on the world's immense flora. Conservation activities are now a major focus and involve international programmes to monitor record and inform, about endangered plants. The Royal Botanic Gardens at Kew today cover 300 acres with a satellite garden at Wakehurst Place.

With the expansion of the empire new trading routes were established, and there were even greater opportunities for plant introduction. Many collectors were sent out by the Royal Botanic Garden at Kew, The Horticultural Society, (later the Royal Horticultural Society), and by private patrons. These collectors searched the wild places of the world for new ornamental plants to supply the increasing passion for new and exotic plants to enhance British gardens.

One of the first priorities of new British settlements was the establishment of a garden. In the 19th and

early 20th century an interest in Botany was the mark of all cultivated Britons overseas. This important middle and upper class interest extended to a world-wide botanical enthusiasm, which also included economic, medicinal, taxonomic and sentimental dimensions. It involved the global redistribution of plants and finding ecologies to which plants from other continents could be transferred. The exploration of North America opened the way for plant explorers and much new material entered Britain, including fruit trees.

Economic crops.

The new colonies sought export cash crops on which to base their economies and among these were cotton, tobacco and sugar cane. Sir Joseph Banks at Kew, was instrumental in transferring economically important plants between countries, and plantations were established in British colonies, e.g. tea, rubber, cotton and cinchona (quinine). Botanic gardens were set up overseas partly as gardens of acclimatization, e.g. in the West Indies, India and Capetown.

The labour intensive crops of cotton and sugar cane planted in the southern States of America required workers and the slave trade developed to supply this labour. Food was needed for the slaves and for this reason, Captain Bligh was sent by Sir Joseph Banks in 1787 in the HMS Bounty, to collect Breadfruit plants (*Artocarpus integrifolia*) from the Society Islands. The mutiny on the Bounty interrupted this plan but unknown to many, Banks sent Bligh a second time to collect breadfruit and plants were then brought back successfully. Banks thought the fruit would be excellent food, but in fact, the slaves did not agree, as they disliked the taste. The flour from the breadfruit, which is grown on a tree, has a high starch content. The slaves themselves introduced rice to the Southern states of the USA. The mariners also needed food supplies and big gardens were established to grow fresh produce for them at St Helena and the Cape of Good Hope.

Who were the plant hunters?

Many people were involved in the rapid and dramatic botanical exchange including botanists, doctors, plantation owners, scientists at Government research stations, missionaries, especially the French, seedsmen and local enthusiasts. The plant hunters came from many fields: botanists attached to geographical

expeditions or military campaigns, employees of Kew, naval officers and surgeons, colonial officials, wealthy travellers and private enterprise collectors, and plant hunters funded by seedsmen or owners of great gardens.

Collecting seed was a long involved process. Travel to remote areas was difficult and often access to plant sites was dangerous. Being in the right place during the right season when the seeds were ripe, meant collectors needed to spend several years away. Physically collecting seeds, storing them and protecting against moisture, temperature variations, insects and vermin, and then maintaining viability was an amazing challenge. Some seeds such as delphiniums and Himalayan primulas need to be sown almost immediately for successful germination, so care of such seedlings when travelling was an added difficulty.

In North America, David Douglas resorted to shooting cones down from a particularly tall conifer and his gunfire attracted unfriendly Indians. He carried tobacco as gifts for Indians in exchange for help. Loads of paper and a press to preserve specimens meant extra luggage and tin boxes were used to store seeds and oilskin to protect his journals. Transporting his collections to a port and then finding a ship to send them back was difficult and missed sailings meant long delays. On one occasion Douglas lost his collections and supplies when his canoe overturned.

Wardian Cases

The transport of live plants was even more difficult. The invention of the Wardian case by Dr Nathaniel Ward around 1830, meant plants could survive for long periods with little extra water. These glass and wooden boxes (miniature glasshouses) could be sealed and made possible the safe transfer of countless plants around the world. This greatly assisted the transfer of economic crops such as tea plants from China to India. Many trees and plants came to New Zealand this way and saved the heartbreaking losses after lengthy sea voyage without such protection. The Wardian cases could be stored on deck and moved about. A replica of such a case, made by a former Gardens' staff member, can be seen in the Botanic Gardens' Information Centre.

Overdoing it!

Seemingly no thought of conservation was evident amongst the earlier plant hunters and nurseries that collected and distributed huge quantities of plants from foreign lands. One collector brought back 100,000 orchids from one region of Mexico. Wild habitats are still under threat or already destroyed by development. This happened in the Cape region of South Africa, which had one of the richest diversity of plants in the world for such a small area. Much of this land has been ploughed up for crops and many species lost or threatened by invasive exotic species.

New Thinking and Conservation.

We now know that conservation efforts are essential and current plant collectors are very aware that many plants, such as the wild narcissi in Portugal are endangered and only small quantities of seed are taken instead of the 'plundering' that did occur in earlier times. One happy story is the help now being given both in return of plants and the sharing of expertise, by the Royal Botanic Garden in Edinburgh with Chinese Botanists, especially with the Rhododendron collections held in Scotland from seeds originally sourced in China.

NB. A distinction needs to be made between plant discovery and plant introduction. Discovery is when a plant is found for the first time and recorded scientifically. Herbarium species are kept for identification and research at an institution like Kew. Plant introduction is when seeds or plants are first transferred from one country to another, e.g. Archibald Menzies discovered the *Pseudotsuga menziesii* (Douglas Fir) which was introduced to Britain by David Douglas.

A. Moore

Each of the Friends' Guides was recently each allocated a plant hunter to study and these stories will be published in our future newsletters.

References:

The Plant Hunters. Toby Musgrave, Chris Gardner, Will Musgrave. Cassell & Co London 1998
An Empire of Plants. Toby and Will Musgrave. Cassell & Co London 2000
The Hillier Manual of Trees and Shrubs 6th Edition David & Charles Newton Abbot UK 1992

Friends' Groups

Daily Guides

During the winter months there is no daily guided walk, but the monthly skills development mornings continue. In May, Brian Molloy discussed with the Guides the early formation of Canterbury and recommended that we read the book he edited, "*Riccarton Bush-Putaringamotu*." He was able to answer many of the questions that we are regularly asked when guiding.

Pat Whitman led an informative morning with the topic "*Being Inclusive of Cultural Differences*." A very interesting help sheet was developed highlighting the national trees, birds, and flowers of different countries. Another observation that we noted from tourists was that Christchurch has four definite seasons which allows for different growth patterns of many of the trees and plants in our Gardens compared with theirs.

In June, we all had a "Plant Hunter" to research and then each of the guides gave a "Three Minute" presentation and their notes were distributed. This information was fascinating and the theme will continue at the July meeting when a map will be laid out showing some of the trees or plants collected by the Hunters in the Botanic Gardens. In doing this a number of the guides requested time to find out more about the workings of the Botanic Gardens Library. Sue Molloy will do this as part of the next month's training.

Once again this is a great group of knowledgeable people willing to share and learn.

Faye

Canterbury Botanical Art Society.

Meetings are held twice a month on the first and 3rd Tuesdays.

Enquiries to Dianne Smith 03 312 0318 or Irene McBryde 343 0368

The Ashmolean Museum, Oxford, England has an exhibition of 1000 years of Botanical Art. The website is www.ashmol.ox.ac.uk

The Propagators' Report:

Sale Dates:

September 24, 2005:

Bulbs and conifers. 10.00am till 2.00pm

October 29, 2005: The Big Plant Sale

Perennials & shrubs. 10.00am till 2.00pm

Plants are sold from stalls around the Palm near BG Information Centre.

The Teams are working through the winter and needed. This is a quiet season for the **Perennials Group**. When the time comes for root division they will be busy and hope to offer a greater variety of plants this year. Newly rooted cuttings of **Shrubs & Natives** are still being potted up but must be kept warm for some time yet. Frost-tender plants are kept in the Tunnel House or under the tree out of harm's way.

The **Bulbs** are slowly coming on stream and Jane McArthur's new Bulb Sale List is available now.

The **September 24th Bulb Sale** is our next big event and we shall also offer a table of conifers. These are cuttings from the Gardens' Pinetum; they are cultivars suitable for small gardens and can be trimmed to shape and size. Some would be very suitable subjects for Bonsai. The **Sale Trolley** is being repainted. It is stocked with shrubs and natives, some flowering; sales continue slowly but steadily. We have bought a beautiful macrocarpa table, made to our specifications by one of the Friends, and we intend to have a party to christen it! It will probably be a Pot-Washing Party, as this is a chore that tends to be left until warmer weather. Everyone will be welcome, but bring your own rubber gloves! Date to be announced. Please phone me if you can help. **Donations of washed pots** of all sizes are appreciated; please leave gifts in plastic bags at the Information Centre. Offers of **help** with any of the Teams are always welcomed. Please contact any of our members or the Staff at the Information Centre.

Helen Constable Coordinator. 980-9358

Snippets

Obituary

John Osborne Taylor

With John's passing on 26 July 05, we have lost a very special Friend who was involved in the establishment of our Society in 1989 and served on the Foundation Committee.

He began as a trainee in the Christchurch Botanic Gardens in 1941 where as a 15 year old, his pay was 15/- a week. He joined the Navy in 1944 and while still in England after the war was accepted for training at Kew Gardens.

When he returned to New Zealand in 1948 he again worked at the Christchurch Botanic Gardens and Linwood Nursery before another overseas study tour to the USA. John received Fellowships to study at the Arnold Arboretum, Harvard University, and the New York Botanical Garden. At the University of California Botanic Garden at Berkley, Professor Sax his Professor from Harvard, arranged a position.

John returned home in June 1950 and was Assistant to the Director of Christchurch Botanic Gardens and in 1952 he became Assistant Curator. He left in October 1954 to get married to Morag and set up his own wholesale nursery business.

With his extensive practical and academic experience, John was a valuable member of the staff at Lincoln University, first as a visiting lecturer then in 1972 he set up the Parks and Recreation Course. He was awarded an MBE in 1979 and since his retirement in 1986, John continued a nonstop involvement in plant related activities, including the Royal NZ Institute of Horticulture, Canterbury Horticultural Society, and Halswell Quarry Park. A highlight for John was his term as President of Kew Guild, the first New Zealander to hold the office

Amongst the members of the Friends are those who worked alongside John – in his many roles and had the benefit of his ever-ready help, knowledge and wise counsel. John is highly regarded universally for his enthusiasm and friendship, his excellent plant knowledge, his vision and through preparation for whatever the project, encouragement to all, whether student or

friend, to pursue the very best option, and take every opportunity to advance.

He has been a mentor to many and will be remembered with great affection for his dedicated contribution in many areas especially the enhancement of our City. Morag has been a wonderfully loyal supporter of John's work and we extend our love and sympathy to her and the family.

Adrienne Moore.

Congratulations

We congratulate Friends' Member Bill Sykes who was recently made an Officer of the New Zealand Order of Merit in the Queen's Birthday honours list.

More Email addresses please

If you have not already given your email address for our notices on coming events or plant sales, please send your email to Faye Fleming flemingn@ihug.co.nz

Subscription renewal time.

Our financial year runs from 1 July to 30 June each year so our new 2005-6 year has begun. We do not send invoices so **please renew your subscriptions now by filling in the enclosed form, both sides please, including offers of help then mail to the Treasurer, Friends of Christchurch Botanic Gardens, P.O. Box 2553, Christchurch, or bring it with payment to the AGM**

Financial members only will receive newsletters after 30 November 2005, so please pay early and stay in touch.

THE 15TH ANNUAL GENERAL MEETING 2.00PM SUNDAY 21 AUGUST 2005

See papers enclosed. Door Prize to one lucky member.

Are you willing to join our Committee or Sub-committees

We need some more keen and active members to contribute to the smooth running of our Society (Nomination form enclosed). Please Phone Faye Fleming 3517798 with offers for help. If you are a new member, being more involved is a great way to make new friends amongst the Friends!

Coming Events

"Native Plant Life of Canterbury - has it a future"

Dr David Given, Curator, Christchurch Botanic Gardens 7pm, Friday 12 August at the Canterbury Horticultural Society rooms, South Hagley Park. Entry is free (a gold coin donation would be appreciated to help cover costs).

This talk will look at the rare and endangered Canterbury flora and associated ecosystems, and what steps need to be taken to ensure that future generations can appreciate a conserved and enhanced landscape where we live alongside and with nature. It is a challenging subject. There are innovative directions, partnerships and recovery processes needed and the talk will suggest ways in which we can be involved. Canterbury has a fascinating array of very special plants - indeed is not only a nationally important region but is globally significant - and David will tell some of the stories about those plants.

The theme of the conference is "Restoring our threatened plant life - empowering our community". It includes morning lectures and afternoon workshops on Friday 12 and Saturday 13 August, and a field trip on Sunday 14 August. A special session will feature local Loder Cup winners. For further information see www.nzpcn.org.nz or contact David Given at the Botanic Gardens.

Important Meeting for all Volunteers Wed 7 Sep 1.00 - 5.00pm

Please refer to our Coming Events insert for full details.

This specially designed free workshop for volunteers will cover legal and safety matters with

Contact Numbers

President	David Moyle	358-8914
Vice President		
Immediate Past President	Faye Fleming	351-7798
Treasurer	Lesley Godkin	388 0043
Membership Secretary	Ruby Coleman	355-8811
Minutes Secretary	Jim Crook	358-5845
Committee Members	Dennis Preston	351-4131
	Don Bell	343-6699
	Elizabeth Wolff (03)	313-5046
Outings/trips	Alison Fox	942-4989
Newsletter	Adrienne Moore	351-5915
Programme	Adrienne Moore	351-5915
Education Subcommittee		
Co-ordinator	Lynne Rowe	358-8412

OSH and ACC input. The aim of this workshop will be to provide a better understanding for organizations in addressing their requirements and legal obligations while using volunteers in the workplace. Registrations by 31 August to David Moyle phone 3588914, or email d&amoyle@xtra.co.nz

Plant Portraits - An Evening with the Cartmans Wed 21 September

Details in Coming events insert.

Ann and Joe Cartman both collect plants and have a wide range of interests. They garden on half an acre in town and have a 60 acre block on Banks Peninsula. Ann is into snowdrops, Hellebores, Trilliums and other obscure herbaceous species. Joe collects Clematis, Aroids, trees and other woody plants and both collect bulbs of many different genera.

Bus trip to Taunton and Orton Bradley Park Sat 1 October

Historic 'Taunton' at Allandale was built in 1853 and has been restored by Lyn and Barry Sligh. The surrounding large charming garden is planted with many Rhododendrons hybrids developed by Barry. He has also a special interest in hostas, day lilies, arisaemas, and other Himalayan plants.

Orton Bradley Park.

The Canterbury Rhododendron Society have worked hard over the last almost 20 years to build up their collection and develop their garden within the Park. October is an excellent time to see many of the rhododendrons and associated plants in flower..

Ex Officio	David Given	941-7583
	Jeremy Hawker	941-7580
Helpers		
Programme helper	Carolyn Collins	382-4212
Programme helper	Tony MacRae	359-8486
Plant Sale	Helen Constable	980-9358
Newsletter mail out	Jean Norton	379-2464
Botanist	Bill Sykes	366-3844
Walks	Max Visch	338-2273
Guide Co-ordinator	Pat Whitman	384-3475
Enquiries	Info Centre	941-6840 x 7590
Computer	Sylvia Meek & Fay Jackson	
Newsletter layout	Maria Adamski	

Friends of Christchurch Botanic Gardens Inc. Coming Events

Insert to Midyear Newsletter no. 63 July 2005

Friends' Phone Contacts:

President: David Moyle 358 8914 Immediate Past President: Faye Fleming 351 7798

Programme: Adrienne Moore 351 5915 Carolyn Collins 382 4212 Tony MacRae 359 8486

Membership: Ruby Coleman 355 8811

A small charge is made at some meetings/events to cover expenses – as indicated.

A daily guided walk departs from the Museum entrance to the Gardens at 1.30pm from 1 September. Cost \$5. For group bookings all the year for Introduction to the Gardens and Seasonal highlights walk - phone 384 3475

All Friends' guided walks leave from the BG Information Centre unless otherwise noted.

All Botanic Gardens' Staff led walks/talks depart from outside *Cunningham House near the Rose Garden. (On the fourth Tuesday of the month at 12.10pm, for 45 minutes.)

The Canterbury Horticultural Society rooms are at 57 Riccarton Avenue.

- Fri 12 Aug 7.00pm Public lecture "**Native Plant Life of Canterbury - has it a future**" by Dr David Given, Curator, Christchurch Botanic Gardens, at the Canterbury Horticultural Society. This is part of the annual conference of the New Zealand Plant Conservation Network. Entry is free (a gold coin donation would be appreciated to help cover costs). Full details in Newsletter.
- Sat 13 Aug 2.00pm Guided Walk - **Trees planted by or commemorating Notable People**, with Friends' Guide Daphne McConchie \$2
- Sun 21 Aug 2.00pm Friends' 15th **Annual General Meeting** at Canterbury Horticultural Society. **Guest Speaker Jeremy Hawker and Panel of Senior Botanic Gardens' Staff.** Afternoon tea.
- Tue 23 Aug 12.10pm *Walk/Talk **Plan and Plant your Garden** with Staff member Louise Young.
- Wed 7 Sep 1.00pm -5.00pm **Free Safety Workshop for Volunteers.**
Cophorne Hotel Cnr. Durham & Kilmore Sts. Sponsored by the Institute of Safety Management. Please register by 31 August, with David Moyle
Phone 3588914. Afternoon tea provided. Details in Newsletter.
- Sat 17 Sep 2.00pm Guided Walk – **Camellias** with Friends' members Tony & Wendy MacRae. \$2
- Wed 21 Sep 7.30pm **Plant Portraits.** An evening with Joe and Ann Cartman, at the Canterbury Horticultural Society Centre. \$3. Followed by supper.
Ann and Joe Cartman both collect plants and have a wide range of interests. They garden on half an acre in town and have a 60 acre block on Banks Peninsula. Ann is into snowdrops, Hellebores, Trilliums and other obscure herbaceous species. Joe collects Clematis, Aroids, trees and other woody plants and both collect bulbs of many different genera.
- Sat 24 Sep 10.00am-2.00pm **Spring Plant Sale Bulbs and conifers.** Stalls around the Palm near BG Information Centre.
- Mon 26 Sep **Canterbury Botanical Art Society Exhibition *Friends, Flowers and Fruit***
till Fri 30 Sep at Botanic Gardens' Information Centre.

- Tue 27 Sep 12.10pm **Plant ID Workshop** with Staff member Dean Pendrigh, by advanced booking only, spaces limited per session. Booking from Information Centre call 03 941 7590. (see also 4 Oct)
- Sat 1 Oct 9.30am-4.30pm **Bus trip to Orton Bradley Park and Taunton Gardens.** Cost members \$22, visitors \$24. Book using attached slip. Enquiries Alison Fox 9424989
- Tue 4 Oct 12.10pm **Plant ID Workshop** with Staff member Dean Pendrigh, by advanced booking only, spaces limited per session. Booking from Information Centre. Call 941 7590
- Fri 7 to 11.00am **The People and Plants of Mona Vale - daily** one hour Guided Walk
 Fri 14 Oct with Friends' Guides from 'The Gate Keeper's House Fendalton Rd. \$2.00
- Sat 15 Oct 2.00pm Guided Walk **Celebrating Spring** with Friends' Guide, Alan Morgan \$2
 Tue 25 Oct 12.10pm *Guided Walk **The Rock Garden** with Staff member Malcolm Shirlaw
- Sat 29 Oct 10.00am-2.00pm **Plant Sale. Perennials and Trees and Shrubs.** Stalls around the Palm near BG Information Centre.
- Sat 12 Nov 10.00am **New Members' morning tea and Behind the Scenes Walk.**
 Meet at the Botanic Gardens' Library. If you have not been able to attend our New Members' welcome event in the past and wish to come this time, please phone Ruby Coleman 3558811 before Sat 5 November.
- Wed 16 Nov 7.30pm Talk by Derek Roozen on **The review of the Hagley Park Management Plan and Botanic Gardens' Redevelopment.** at Canterbury Horticultural Society. \$3 followed by supper. Derek is a Planner for Parks and Waterways within the Greenspace Unit of the City Council.
- Sat 19 Nov 2.00pm Guided Walk **Spring into Summer** with Friends' Guide, Denise Davison. \$2
 Tue 22 Nov 12.10 pm *Guided Walk **The Woodland Gardens - Primula and Heritage Rose Gardens** with Staff member Richard Poole.
- Sat 3 Dec 4.00pm -6.30pm **Christmas function and Petanque** at Petanque Club. Entrance off Armagh St Carpark. Please bring a plate of finger food to share and \$\$\$\$\$ for raffles.
- Thu 8 Dec 8.00pm Talk. **'Rare and Unusual Bulbs from Kew's Alpine House'.**
 With **Tony Hall** from Kew Gardens - to be held in the **Philatelic Centre, 67 Mandeville Street, Riccarton.** There will be a **\$5.00 cover charge**, plant sales and supper as well as a display of locally grown plants for all to see.
 The **New Zealand Alpine Garden Society** invites members of the Friends of the Botanic Gardens to hear Tony's talk. He has been invited to New Zealand by the Iris Society for their conference. They have asked NZAGS to share some of the cost of his trip to NZ and we are delighted to do so by offering all keen gardeners the opportunity to hear Tony. He comes with a considerable reputation as an excellent speaker and we are looking forward to hearing him speak. Enquiries 384 3364.
- Sat 17 Dec 2.00pm Guided Walk **Plants associated with Christmas.** Friends' Guides. \$2
Everyone is welcome at our events. Please bring your friends.